

PubMed Nucleotide Protein Genome Structure PMC Taxonomy OMIM Books
Search PubMed for [] Go Clear
Limits Preview/Index History Clipboard Details

About Entrez

Display Abstract Show: 20 Sort Send to Text

Text Version

Entrez PubMed

Overview
Help | FAQ
Tutorial
New/Noteworthy
E-Utilities

PubMed Services
Journals Database
MeSH Database
Single Citation Matcher
Batch Citation Matcher
Clinical Queries
LinkOut
Cubby

Related Resources
Order Documents
NLM Gateway
TOXNET
Consumer Health
Clinical Alerts
ClinicalTrials.gov
PubMed Central

Privacy Policy

1: Microvasc Res. 2002 Jul;64(1):135-47.

Related Articles, Links

ELSEVIER
FULL-TEXT ARTICLE

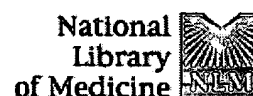
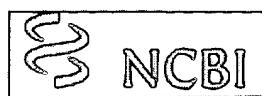
Mechanisms which mediate the antiapoptotic effects of angiopoietin-1 on endothelial cells.

Harfouche R, Hassessian HM, Guo Y, Faivre V, Srikant CB, Yancopoulos GD, Hussain SN.

Critical Care and Respiratory Divisions, McGill University and Royal Victoria Hospital, Montreal, Quebec, Canada.

The main objective of this study was to identify molecular mechanisms through which angiopoietin-1 (Ang-1), a ligand for Tie-2 receptors, influences endothelial cell apoptosis. Human umbilical vein endothelial cells were cultured in a medium enriched with 2% fetal bovine serum (FBS) and growth supplements. Apoptosis was induced over 24 h by reducing FBS to 0.1%. Activation of caspase-9, -8, -7, and -3 and the expression of Bcl-2 family proteins, inhibitors of apoptosis (IAPs), cytochrome c, as well as Smac proteins were evaluated with immunoblotting. Ang-1 clearly attenuated serum deprivation-evoked apoptosis, an effect which required Tie-2 receptor activation. Activation of caspase-9, -7, and -3, but not caspase-8, was inhibited by Ang-1. The inhibitory effects of Ang-1 on apoptosis and caspase activation were reversed by a PI-3 kinase inhibitor (wortmannin). Ang-1 exposure upregulated the expression of Survivin but not XIAP (members of IAPs), reduced the cytosolic levels of Smac, but not that of cytochrome c, and had no effect on the expression of Bcl-2 family proteins. This is the first study to report on the mitochondrial mechanisms through which Ang-1 inhibits apoptosis and to investigate the role of the newly discovered Smac. We conclude that Ang-1 inhibits endothelial cell apoptosis through several pathways, which include PI-3 kinase/AKT activation, inhibition of Smac release from the mitochondria, and upregulation of Survivin protein.

PMID: 12074640 [PubMed - indexed for MEDLINE]



PubMed

Nucleotide

Protein

Genome

Structure

PMC

Taxonomy

OMIM

Books

Search PubMed for

Limits

Preview/Index

History

Clipboard

Details

[About Entrez](#) Abstract Text

Text Version

Entrez PubMed

[Overview](#)[Help | FAQ](#)[Tutorial](#)[New/Noteworthy](#)[E-Utilities](#)

PubMed Services

[Journals Database](#)[MeSH Database](#)[Single Citation Matcher](#)[Batch Citation Matcher](#)[Clinical Queries](#)[LinkOut](#)[Cubby](#)

Related Resources

[Order Documents](#)[NLM Gateway](#)[TOXNET](#)[Consumer Health](#)[Clinical Alerts](#)[ClinicalTrials.gov](#)[PubMed Central](#)[Privacy Policy](#)☐ 1: Eur J Pharmacol. 1996 Dec 27;318(1):93-6.[Related Articles, Links](#)**ELSEVIER**
FULL-TEXT ARTICLE

Potent inhibition of angiogenesis by wortmannin, a fungal metabolite.

Oikawa T, Shimamura M.

Department of Cancer Therapeutics, Tokyo Metropolitan Institute of Medical Science (Rinshoken), Japan.

Wortmannin ([1S-(1 alpha, 6b alpha, 9a beta, 11 alpha, 11b beta)]-11-(acetyloxy)-1,6b,7,8,9a,10,11,11b-octahydro-1-(methoxymethyl)-9a, 11b-dimethyl-3 H-furo[4,3,2-de]indeno[4,5-h]-2-benzopyran-3,6,9-trione), a fungal metabolite that is as a selective inhibitor of phosphatidylinositol 3-kinase, was evaluated for its potential as an inhibitor of in vivo angiogenesis in a bioassay system involving growing chick embryo chorioallantoic membranes. It showed dose-dependent inhibitory activity against embryonic angiogenesis. This inhibition occurred at a dose as low as 1 ng (2.3 pmol) per egg and the ID50 value was 30 ng/egg. These findings suggest that wortmannin is a new angiogenesis inhibitor, and that it may be a lead antibiotic for a novel class of therapeutic agents for angiogenesis-dependent diseases like cancer, diabetic retinopathy and rheumatoid arthritis.

PMID: 9007518 [PubMed - indexed for MEDLINE]

 Abstract Text [Write to the Help Desk](#)[NCBI | NLM | NIH](#)[Department of Health & Human Services](#)[Freedom of Information Act | Disclaimer](#)

Sep 4 2003 10:00:42